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10/568,013	02/10/2006	Om Prakash Gangwal	NL030979	2298

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NXP, B.V.  
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EXAMINER
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TREAT, WILLIAM M

ART UNIT	PAPER NUMBER
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2181

NOTIFICATION DATE	DELIVERY MODE
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04/02/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/568,013	<b>Applicant(s)</b> GANGWAL ET AL.	
	<b>Examiner</b> William M. Treat	<b>Art Unit</b> 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2008 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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1. Claims 1-32 are presented for examination.
2. In view of the Appeal Brief filed on 12/11/2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejection in addition to the old grounds of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181

While the courts have held that it is improper to rely on speculative assumptions regarding the meaning of a claim and then base a rejection under 35 USC 103 on those assumptions *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962), the examiner will make assumptions as to the intended meaning of applicants' claims based on

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applicants' specification and drawings rather than waste the Board's time and resources and applicants' time and resources when applicants are aware that many of applicants' claims (in light of applicants' specification and drawings) are not even novel over Kleihorst et al. (Xetal), a prior art document co-authored by two of the applicants.

However, the examiner will also maintain his original rejections of applicants' claims.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the aspect of the drawings which shows "each processing element receiving a common instruction and comprising a multiplexer for receiving said common instruction", as in claims 1 and 17, must be shown or the feature(s) canceled from the claim(s). Also, the aspect the drawings which show "the index multiplexer configured to selectively pass ... part of the received instruction", as in claims 4 and 20, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering

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of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, "the index multiplexer configured to selectively pass accumulator data or coefficient data, or part of the received instruction" of claims 4 and 20 and "the input multiplexer is configured to **pass accumulator data** to the storage element **when storing coefficient data**" of claims 7 and 23 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

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application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. While the examiner does not find support in applicants' original specification and drawings for "the index multiplexer configured to selectively pass ... part of the received instruction" nor such an interpretation of "receiving, received, etc." and does not recommend an attempt to incorporate such new matter into applicants' figures, the examiner considers it important to make the record clear on the matter.

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 1-32 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

9. Applicants' independent claim 1 and independent claim 17 recite: "each processing element receiving a common instruction and comprising a multiplexer for receiving said common instruction". None of the multiplexers (5, 15, 21) in applicants' Fig. 2, which is supposed to depict applicants' invention, receive the common instruction though all of the multiplexers seem to be controlled by the instruction or a portion of the

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instruction. None of claims 2-16 or 18-32 which depend from applicants' two independent claims remedy this problem with independent claims 1 and 17.

10. Applicants' dependent claims 4 and 20 recite: "the index multiplexer configured to selectively pass accumulator data or coefficient data, or part of the received instruction". The examiner has not found support in applicant's drawings or specification for the claim language as written. Part of the received instruction never seems to be selectively passed by any multiplexer.

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

13. See paragraph 7, *supra*, for a discussion of the problem with applicants' claims.

14. Claims 4 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

15. See paragraph 8, *supra*, for a discussion of the problem with applicants' claims.

16. Claims 7 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements and or steps are those which explain how or why "the input multiplexer is configured to **pass accumulator data** to the storage element **when storing coefficient data**". If the claim is enabled

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then there are steps or elements missing which explain the transformation of accumulator data into coefficient data.

17. Applicant's arguments filed 12/11/2008 have been fully considered but they are not persuasive.

18. Applicants argued on behalf of their claims, in substance, (a) even though there is nothing in applicants' original specification or drawings which supports the limitations of claims 4, 20, 7, and 23, the claims are self-enabling and anyone of ordinary skill could implement the substance of such claims without undue experimentation, and (b) though the phrase, "each processing element receiving a common instruction and comprising a multiplexer for receiving said common instruction", only means the instruction data is received at the control inputs of the multiplexer in claims 1 and 17, no lack of clarity results when the words, "received instruction", are used in claims 4 and 20 (whose only antecedent basis is found in the received instruction of claims 1 and 17) to mean instruction data received at the data inputs of the multiplexer even though no such role for instruction data is depicted in applicants' drawings.

19. As to 18(a), in the recent case of Automotive Tech. International, Inc. versus BMW of North America, Inc., 501F3d 1274, 84 U.S.P.Q.2d 1108 (Fed. Cir. 2007) the court held that in order to fulfill the enablement requirement, the specification must reasonably enable the entire scope of the claim or the claim is invalid. In that same decision the court held that the specification, not the knowledge of one skilled in the art, must supply the novel aspects of an invention in order to constitute enablement. The



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rule that specification need not disclose what is well known in the art is merely a rule of supplementation, not a substitute for basic enabling disclosure.

20. As to 18(b), the examiner still sees applicants' language as misleading for the reasons cited previously.

21. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

22. Claims 1-2, 11, 16-18, 27, and 32 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kleihorst et al. (Xetal ...)

23. Should applicants be unfamiliar with the "clearly anticipated" reference, they can read relevant information in the notes to form paragraph 7.15 in the MPEP. The basic premise behind a "clearly anticipated" rejection is when the applicants, as individuals of at least ordinary skill in the art, read the reference they will be readily able to recognize the relevance of the teachings of the art to their claims without explanation. However, though not necessary, this examiner usually points applicants to some particularly relevant passages in the reference and provides explanation of his interpretation of applicants' claim language when there might be some possible ambiguity.

24. The examiner would suggest applicants' review Figs 1(a) and 2 and the section entitled ARCHITECTURE, at a minimum, before responding to the examiner's action.

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

27. Claims 3, 7-8, 12, 15, 19, 23-24, 28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleihorst et al. (Xetal ...) in view of Lynch et al. (Patent No. 4,025,771).

28. As to claim 3, Kleihorst taught the invention of independent claim 1 from which claim 3 depends as well as writing accumulator data to the input port of the storage element (Figs. 1(b) and 2). He did not teach the input port of the storage element is connected to receive data from an input multiplexer which passes the data. However, Lynch taught it was merely conventional circuitry, at the time of applicants' invention, to use multiplexers to pass data to the input ports of memories (Fig. 2, elements 21 and 25). Multiplexers enable one to chose from an array of inputs as well as potentially isolating the storage element from bus noise, depending on the design of the multiplexer circuitry.

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29. As to claim 7, applicants have argued strongly in relation to the examiner's rejection of claim 7 on 35 USC 112 grounds that it would be trivial for one of ordinary skill in the art to generate coefficient data using the ALU which could then be passed through the input multiplexer and stored in the storage element in a storage location indicated by the index signal. Since Kleihorst and Lynch taught all the other elements of claim 7 were merely a combination of prior art elements used for their known purpose and since applicants strongly argue how one generates coefficient data using an ALU is a trivial matter for those of ordinary skill, applicants' claim 7 is obvious.

30. As to claim 8, since accumulator and coefficient data can be equivalent, as argued by applicants, it is rejected for the same reasons claim 7 is rejected.

31. As to claim 12, since accumulator and coefficient data can be equivalent, as argued by applicants, it is rejected for the same reasons claim 7 is rejected.

32. As to claim 15, Kleihorst taught the output of data from the storage element to the multiplexer which receives the instruction data at its control inputs (Fig. 1(b)), he did not teach there was a register between the output of the storage element and the multiplexer. However, Lynch taught placement of a register (X Reg.) between the output of the storage element (21) and a multiplexer (16) which receives instruction data at its control inputs was known in the art. Such registers can overcome timing problems and, potentially, provide for repetitive use of the same value without having to re-access the storage element.

33. As to claims 19, 23-24, 28, and 31, they fail to teach or define over rejected claims 3, 7-8, 12, and 15 respectively.

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34. Claims 4-6, 9, 20-22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleihorst et al. (Xetal ...) in view of Li et al. (Patent No. 6,272,615).

35. As to claim 4, Kleihorst taught the invention of claims 1 and 2 from which claim 4 depends. He also taught the index signal. He did not teach an index multiplexer to selectively pass part of the received instruction as an index signal. However, Li taught such circuitry was known at the time of applicants' invention (Fig. 9 and col. 11, lines 43-62). One of ordinary skill uses such circuitry to provide flexibility in selecting the address source for accessing data.

36. As to claim 5, Li taught index multiplexer controlled by the received instruction (Fig. 9 and col. 11, lines 43-62). it was conventional at the time of applicants invention to use instruction data to control the mode of addressing and the data being written to a memory.

37. As to claim 6, Li taught it was known to provide coefficients from memory based on the data to be processed (Fig. 9 and col. 11, lines 43-62).

38. As to claims 20-22, they fail to teach or define over rejected claims 4-6.

39. As to claims 9 and 25, this merely seems to claim that an index/address can be input on the coefficient bus and be selected by an appropriate index multiplexer such as Li taught. The examiner takes Official Notice of the fact that busses which could be used for addresses and other data were known in the art at the time of applicants' invention.

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40. Claims 14 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleihorst et al. (Xetal ...) in view of Lynch et al. (Patent No. 4,025,77) and Li (Patent No. 6,272,615).

41. Kleihorst, Lynch, and Li taught the elements necessary to implement claims 14 and 23 (see the preceding paragraphs).

42. Claims 14 and 30, merely seem to be for placing on the same bus, simultaneously, the storage address of data with the data being stored. Given that the bus is wide enough this represents no technological challenge to one of ordinary skill. The examiner takes Official Notice of the fact the parallel transmission of address and data on a bus was known at the time of applicants' invention.

43. Claims 10, 13, 26, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleihorst et al. (Xetal ...) in view of Lynch et al. (Patent No. 4,025,77) and Li (Patent No. 6,272,615) and Blevins et al. (Blitzen ...).

44. Kleihorst and Lynch taught the claims from which claims 10, 13, 26, and 29 depend. They did not teach wherein the index signal is defined by accumulator data received by the index multiplexer. However, Li taught an appropriate index multiplexer for selecting an index into the storage element (Fig. 9 and col. 11, lines 43-62) and Blevins taught the index signal is defined by accumulator data (Fig. 1). The examiner also takes Official Notice of the fact that it was known by those of ordinary skill in the art at the time of applicants' invention how one could use an ALU to modify an address repeatedly, each time storing the result in the accumulator. The index is nothing more than an address for the memory.

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45. To assist applicants should they chose to challenge the examiner's Official Notice, the examiner is pointing out that following the KSR decision by the Supreme Court, the Office has changed its policy related to Official Notice. The Office now requires applicants to provide persuasive evidence and/or arguments directly refuting the Official Notice before a supporting reference is to be supplied by the examiner.

46. MPEP 2141 reads, in part, as follows:

The Supreme Court in *KSR* reaffirmed the familiar framework for determining obviousness as set forth in *Graham v. John Deere Co.* (383 U.S. 1, 148 USPQ 459 (1966)), but stated that the Federal Circuit had erred by applying the teaching-suggestion-motivation (TSM) test in an overly rigid and formalistic way. *KSR*, 550 U.S. at, 82 USPQ2d at 1391. Specifically, the Supreme Court stated that the Federal Circuit had erred in four ways: (1) "by holding that courts and patent examiners should look only to the problem the patentee was trying to solve" (*Id.* at\_\_ 82 USPQ2d at 1397); (2) by assuming "that a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem" (*Id.*); (3) by concluding "that a patent claim cannot be proved obvious merely by showing that the combination of elements was obvious to try" (*Id.*); and (4) by overemphasizing "the risk of courts and patent examiners falling prey to hindsight bias" and as a result applying "[r]igid preventative rules that deny factfinders recourse to common sense" (*Id.*).

In *KSR*, the Supreme Court particularly emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art," *Id.* at\_\_ 82 USPQ2d at 1395, and discussed circumstances in which a patent might be determined to be obvious. Importantly, the Supreme Court reaffirmed principles based on its precedent that "the combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* at\_\_ 82 USPQ2d at 1395.

47. The Supreme Court further stated that:

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his ordinary skill. *Id.* at\_\_ 82 USPQ2d at 1396. When considering obviousness of a combination of known elements, the

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operative question is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at \_\_82 USPQ2d at 1396.

48. Applicants seemed to have made an improvement on a known device (Kleihorst et al. (Xetal ...)) using known techniques yielding predictable results. Applicants' claimed invention is obvious over the prior art.

49. Any inquiry concerning this communication should be directed to William M. Treat at telephone number (571) 272-4175.

50. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Alford W. Kindred/

Supervisory Patent Examiner, Art Unit 2181

/William M. Treat/

Primary Examiner, Art Unit 2181